Identifier:	Revision:	Effective Date:
DI-4.26	**0**	**08/07/01**

ER Document Catalog Number: **ER2001-0423**

Author: Felicia M. Aguilar

environmental restoration project

A Department of Energy
Environmental Cleanup Program

Environmental Restoration Project
Desk Instruction

for:

Legacy Field Data Review Process

Los Alamos
NATIONAL LABORATORY
Los Alamos, New Mexico 87545

Revision Log

Revision No.	***Effective Date***	***Prepared By***	***Description of Changes***	***Affected Pages***
Revision 0	08/07/01	Felicia M. Aguilar	New Desk Instruction	All

Legacy Field Data Review Process

Table of Contents

Legacy Field Data Review Process

1.0 PURPOSE

This Desk Instruction (DI) states the responsibilities and describes the process for performing checks involved in reviewing Look Up Table (LUT) values and associated QC codes for legacy datasets on the ER Project. The review requires the field documentation generated during the field activity. At a minimum, the Sample Collection Log and Daily Activity Log (or logbook) are required to do an effective review.

2.0 SCOPE

This DI is a guidance document and should be implemented by all ER Project participants when following the process for performing checks involved in reviewing Look Up Table (LUT) values and associated QC codes for legacy datasets on the ER Project.

3.0 REFERENCES

ER Project personnel should become familiar with the contents of the most current version of the following documents, when appropriate, located at http://erinternal.lanl.gov/home_links/Library_proc.htm to properly implement this DI.

ER-SOP-6.01, Purging of Wells for Representative Sampling of Ground Water
ER-SOP-6.02, Field Analytical Measurements of Groundwater Samples
ER-SOP-6.03, Field Analytical Measurements of Groundwater Samples
ER-SOP-6.09, Spade and Scoop Method for Collection of Soil Samples
ER-SOP-6.10, Spade and Scoop Method for Collection of Soil Samples
ER-SOP-6.13, Surface Water Sampling
ER-SOP-6.14, Sediment Material Collection
ER-SOP-6.15, Coliwasa Sampler for Liquids and Slurries
ER-SOP-6.16, Thief Sampler for Dry Powders or Granules
ER-SOP-6.17, Trier Sampler for Sludges and Moist Powders or Granules
ER-SOP-6.19, Weighted Bottle Sampler for Liquids and Slurries in Tanks
ER-SOP-6.21, Volatile Organic Sampling Train
ER-SOP-6.22, Canister Sampling for Organics - EPA Method T0-14
ER-SOP-6.23, Field Surveys of Gamma Radiation Using Sodium Iodide Detectors
ER-SOP-6.24, Sample Collection from Split-Spoon Samplers and Shelby Tube Samplers

ER-SOP-6.26, Core Barrel Sampling for Subsurface Earth Materials

ER-SOP-6.27, Subsurface Vapor Sampling Using Soil Gas Probes and Single Downhole Packers

ER-SOP-6.28, Chip Sampling of Porous Surfaces

ER-SOP-6.29, Single-Stage Sampling for Surface Water Run-Off

ER-SOP-6.30, Sampling of Vapor-Port-Equipped Monitoring Wells at MDA G and L

4.0 DEFINITIONS

Note: A glossary of definitions can be located on the ER Project internal homepage http://erinternal.lanl.gov.

4.1 *Daily Activity Log (or field notebook)* — Field Notebooks or Daily Activity Log forms must be used by field personnel to record all pertinent field data, including detailed summaries of information pertaining to the field investigation and additional field data.

4.2 *Field notebook* — A field notebook is generally used to record activities performed in the field or to compile field data.

4.3 *Borehole Log* — A borehole log is used to document field logging of borehole materials (soil, core, cuttings, rubble, etc.) during drilling projects.

4.4 *Look Up Table (LUT)* — A look up table is a list of allowable values for a field that describes certain characteristics of a sample.

4.5 *Sample Collection Log* — A sample collection log is a form that must be completed for each sample collected. It is used to record all information pertinent to collection of sample media.

5.0 RESPONSIBLE PERSONNEL

The following personnel are responsible for activities identified in Section 4.0 of this desk instruction.

5.1 Data Steward/Reviewer

5.2 Supervisor

6.0 PROCEDURE

Note: Subcontractors performing work under the ER Project's quality program may follow this desk instruction (DI) for performing checks involved in reviewing Look Up Table (LUT) values and associated QC codes for legacy datasets on the ER Project or may use their own procedure(s) as long as the substitute meets the requirements prescribed by the ER Project Quality Management

Plan and is approved by the ER Project's Quality Program Project Leader (QPPL) before the commencement of the designated activities.

Note: ER Project personnel may produce paper copies of this desk instruction printed from the controlled-document electronic file located at http://erinternal.lanl.gov/home_links/Library_proc.htm. However, it is their responsibility to ensure that they utilize and train to the current version of this procedure. The author may be contacted if text is unclear.

Data stewards/reviewers follow the process below, represented in the flow diagram in Attachment A.

6.1 Use the Access database form.

Note: The LUT values, their definitions, and their associated QC codes are available at

Note: The form lists the current allowable LUT values and their associated QC codes. In addition to the listed current values, empty fields are available for updated LUT values and updated QC codes. The form requires QC code update if the LUT value is updated.

6.2 Consult geologists, field samplers, and other field team members to clarify procedural aspects of sample collection.

6.3 Enter your initials along with the date of review at the top of the form and transfer to each record evaluated during the review session.

6.4 For any "update," enter the QC code "MANUAL" to specify that information based on a hardcopy review is the reason for the update.

6.5 Enter "OK" in the QC code field, if you agree with the current LUT value.

Note: This is done so that there is an indication that the value was reviewed and agreed with, versus never evaluated.

6.6 Check the codes, flags, and types of information that are relevant in doing the check as indicated below.

6.6.1 Check Sample Technique Code

Consult the following field documents when making decisions concerning this code:

- The Daily Activity Log or field notebook—comments may list the personnel performing the sampling and the sampling equipment used.
- The Sample Collection Log—comments may list the personnel performing the sampling, the sampling equipment used, and the Standard Operating Procedure (SOP) followed.

Note: If the SOP is listed, the following table can be helpful in determining which Sample Technique Code to assign.

SOP NUMBER	SOP TITLE	SOP DATE	SAMPLE_TECH_CODE
ER-SOP-6.01	Purging of Wells for Representative Sampling of Ground Water	03/08/1999	BA (bailer), BP (bladder pump), RS (reciprocating piston submersible pump)
ER-SOP-6.02	Field Analytical Measurements of Groundwater Samples	03/08/1999	
ER-SOP-6.03	Sampling for Volatile Organics	03/08/1999	RS (reciprocating piston submersible pump), GSP (gear driven submersible pump), SYR (syringe sampler), BA (bailer)
ER-SOP-6.09	Spade and Scoop method for Collection of Soil Samples	02/08/2001	SS
ER-SOP-6.10	Hand auger and Thin-Wall Tube Sampler	08/26/1998	HA
ER-SOP-6.13	Surface Water Sampling	03/16/1992	PP (peristalic pump), TD (transfer device for grab sample)
ER-SOP-6.14	Sediment Material Collection	03/16/1992	PGS (ponar grab sampler), HC (hand corer), GC (gravity corer)
ER-SOP-6.15	Coliwasa Sampler for Liquids and Slurries	03/16/1992	CS
ER-SOP-6.16	Thief Sampler for Dry Powders or Granules	03/16/1992	TFS
ER-SOP-6.17	Trier Sampler for Sludges and Moist Powders or Granules	03/16/1992	TRS
ER-SOP-6.19	Weighted Bottle Sampler for Liquids and Slurries in Tanks	03/16/1992	WB
ER-SOP-6.21	Volatile Organic Sampling Train	03/16/1992	VOST

SOP NUMBER	SOP TITLE	SOP DATE	SAMPLE_TECH_CODE
ER-SOP-6.22	Canister Sampling for Organics - EPA Method T0-14	03/16/1992	CA
ER-SOP-6.23	Field Surveys of Gamma Radiation Using Sodium Iodide Detectors	09/15/1998	
ER-SOP-6.24	Sample Collection from Split-Spoon Samplers and Shelby Tube Samplers	05/19/1993	SP
ER-SOP-6.26	Core Barrel Sampling for Subsurface Earth Materials	05/19/1993	CBS
ER-SOP-6.27	Subsurface Vapor Sampling Using Soil Gas Probes and Single Downhole Packers	09/27/1995	
ER-SOP-6.28	Chip Sampling of Porous Surfaces	09/20/1994	MC (manual collection)
ER-SOP-6.29	Single-Stage Sampling for Surface Water Run-Off	09/17/1993	SSS
ER-SOP-6.30	Sampling of Vapor-Port-Equipped Monitoring Wells at MDA G and L	12/03/1999	

Table 6.1, Sample Technique Codes

- The hollow stem auger, “HSA”, and the core barrel sampler, “CBS”, are generally used in conjunction. Either designation may appear to indicate this sampling technique.
- If the Sample_Tech_Code is Null in FIMAD and applicable information does not exist on the Sample Collection Log, a value of “UNK,” indicating that the code is unknown, is entered as a default. The following are exceptions to this statement:
  - The sampling technique for septic systems is entered as “TD,” transfer device for grab samples.
  - If the sampling technique for drum samples is not specified. “TD,” transfer device for grab samples, is entered.

- When swipe samples of possibly contaminated sampling equipment are taken, the sampling technique is entered as “WW,” wipes.

6.6.2 Check Field Prep Code

Consult the following field documents when making decisions concerning this code:

- The Sample Collection Log comments may describe any field preparation of the sample, including filtering, sieving, or crushing.
- If the Field_Prep_Code is Null in FIMAD and applicable information does not exist on the Sample Collection Log, a value of “UA,” indicating that the code is unassigned, is entered as a default. The following are exceptions to this statement:
  - Water samples are assumed to be unfiltered unless otherwise noted.

6.6.3 Check Field Matrix Code

Consult the following field documents in making decisions concerning this code:

- The Daily Activity Log comments may provide a physical description of the sample.
- The Sample Collection Log may list the matrix type under the labeling Sample Type. The comments section may provide a physical description of the sample.
- The Geological Log comments may provide a physical description of the sample.
- If the Field_Matrix_Code is Null in FIMAD and applicable information does not exist on the Sample Collection Log, the Eval_Class_Code for the sample is used to determine the appropriate Field_Matrix_Code. This may be done record by record, or with global updates after Eval_Class_Code is checked.

6.6.4 Check Field QC Type Code

Consult the following field documents in making decisions concerning this code:

- The Sample Collection Log comments may provide a description of the type of QC. The QC types listed may include but are not limited to field blanks, field trip blanks, field duplicates, field rinsates, and performance evaluation samples.

- If the Field_QC_Type_Code is Null in FIMAD and applicable information does not exist on the Sample Collection Log a value of “NA,” indicating that the code is not applicable to this sample, is entered as a default.

6.6.5 Check Sample Usage Code

Consult the following field documents when making decisions concerning this code:

- The Daily Activity Log comments may provide guidance on sample usage. This is especially true if a Health and Safety samples were required.
- The Sample Collection Log comments may provide guidance as to the purpose of the sample collection. Sample uses may be for, but are not limited to, an investigation, health and safety evaluation, QC evaluation, or a performance evaluation.
- To evaluate if a sample was used for screening purposes, only a review of its analytical data may provide insight.

6.6.6 Check Composite Type Code

Consult the following field documents when making decisions concerning this code:

- The Sample Collection Log lists information under Composite and Composite Type.
- If the Composite_Type_Code is Null in FIMAD and applicable information does not exist on the Sample Collection Log a value of “NA,” indicating that the code is not applicable to this sample, is entered as a default.

6.6.7 Check Excavation Flag

Consult the following field documents when making decisions concerning this code:

- The Daily Activity Log comments may discuss any excavation performed that was needed to access the sampling site.
- The Geological Log comments may list any geographical conditions present that necessitated an excavation.
- If the Excavation_Flag is Null in FIMAD and applicable information does not exist on the Sample Collection Log or in reports, a value of “NA,” indicating that the code is not applicable to this sample, is entered as a default for water, other liquid samples, filter, or swipe samples, and a value of “N” is entered as

a default for QC samples and all regular samples. (Perform this record by record, or with a global update.)

6.6.8 Check Water Source Flow Flag

Consult the following field documents when making decisions concerning this code:

- The Daily Activity Log comments may describe sampling locations that indicate water flow, such as a stream, or lack of water flow, such as a well.
- The Sample Collection comments may describe the sample location characteristics.
- A “Yes” flag indicates a sample represents water that is flowing at the time of collection, while a “No” flag indicates the sample represents water that was not flowing at the time of collection.
- Use a default of “No” when information is not available.

6.6.9 Check Eval Class Code

Consult the following field documents when making decisions concerning this code:

- The Geological Log or Borehole Log is the source of information for boreholes. For auger holes the information may be documented in either Geological or Borehole or Sample Collection Logs.
- If a log entry is available, check it against the value in FIMAD and crosscheck against the Geological Model. If the values match, the entry is probably correct.
- If there is a Null value in FIMAD, consult the log entry and the Geological Model and assign an appropriate value.
- If there is no log entry for comparison and there is a Null value in FIMAD, consult the Geological Model for assignment of a value.
- If questions arise, consult a geologist for a professional judgment assignment.

6.6.10 Check Depth of Sample Field

Consult the following field documents when making decisions concerning this information:

- The Daily Activity Log may describe sampling depths.
- The Sample Collection Log lists sample depths under the category Depth of Sample.

- The Geological Log may provide depths for samples collected within logged intervals.
- If a depth value is not appropriate for the type of sample, enter zero for both the start and end depths and a value of “NA” for the unit of measure.

6.6.11 Check Reviewer Comments Field

A comments field was added to the database to provide referencing sources of information used to clarify or justify update form entries.

6.6.12 Check Specifics for Individual Datasets

Develop, if required, a list of “defaults” or decisions made in updating the records during the review of a specific dataset.

Note: This document is kept as a record for updates made so that one can understand the rationale for certain updates, and so that other reviewers of the dataset have the list available to ensure consistent updates.

6.7 Compile the Dataset

When all of the records in the dataset are checked and updated as appropriate, provide the dataset to the data steward responsible for updating the records in FIMAD; the hard copy documentation compiled during the review of the dataset is also submitted to the data steward for submittal to the RPF, if it is a contributing quality document.

Note: The data steward that performs the updates electronically archives the database on ER Project AAA, file server for a period of one year.

6.8 Perform Lessons Learned

During the performance of work, **ER Project personnel** identify, document, and submit lessons learned, as appropriate, in accordance with QP-3.2, Lessons Learned, located at http://erinternal.lanl.gov/documents/Procedures/qps.htm.

7.0 RECORDS

This Desk Instruction generates no records.

8.0 TRAINING

6.1 All **users** of this DI are trained by reading the desk instruction; documentation of training is not necessary.

6.2 The **supervisor** monitors the proper implementation of this procedure.

9.0 ATTACHMENTS

Attachment A: Legacy Field Data Review Process Flow Diagram (1 page)

Legacy Field Data Review Process Flow Diagram